We claim:

1. A device for indicating changes in resistance of a living body comprising:

a resistance measuring circuit having external leads for sensing the resistance of a living body placed across the external leads;

amplifier means for producing an analog measurement signal indicative of the sensed body resistance;

an indicator circuit for displaying visually perceivable indicia representative of the sensed body resistance;

a digital processing unit for digitizing and digitally processing the measurement signal to substantially offset the effects of component aging, tolerances and temperature on the accuracy of the measurement signal; and

indicator means responsive to the processed measurement signal for displaying visually perceivable indicia representative of small sensed body resistance changes.

2. The device of Claim 1 wherein the digital processing unit includes

means for substituting a plurality of electrical resistance values in lieu of a body resistance to the amplifier means for sensing, said plurality simulating a variety of body resistance values,

means for digitizing and storing in memory the plurality of measurement signal values corresponding to the plurality of simulated body resistance values,

means for interpolating between the measurement signal values obtained for the simulated body resistance values to quantify the expected measurement signal values for a plurality of additional body resistance values, and

means for forming and storing a table relating expected measurement signal values for respective body resistance values based upon said interpolation.

3. The device of Claim 2 wherein the substituting means includes a multiplexer responsive to a plurality of selection signal values to place a respective one of a plurality of electrical resistors in the resistance measuring circuit.

4. The device of Claim 2 wherein the substituting means includes a multiplexer responsive to a plurality of selection signal values to place a respective one of a plurality of electrical resistors in the resistance measuring circuit in lieu of the external leads.

5. The device of Claim 2 wherein the substituting means includes a multiplexer responsive to a plurality of selection signal values to respectively place a component in the resistance measuring circuit selected from the group consisting of (1) the external leads and (2) a respective one of a plurality of electrical resistors.

6. The device of Claim 2 including means for means for automatically activating the substituting means upon the powering-up of the device to form and store a table relating expected measurement signal values for respective body resistance values based upon said interpolation.

7. The device of Claim 1 wherein the digital processing unit includes means for subtracting the monitored body's electrical resistance value from a user-adjustable base value to produce an adjusted measurement signal as the measurement signal to the indicator means,

manually positionable means operable by the user to adjust the base value, and

optical encoder means coupled to the manually positionable means for producing the base value as a function of the position of the manually positionable means.

8. The device of Claim 7 wherein the manually positionable means consists of a manually rotatable knob, and

the optical encoder includes a rotatable spindle coupled to said knob and means for producing a digital output signal indicative of the spindle's position.

9. The device of Claim 8 including means for adjusting the magnitude of the digital output signal from the optical output encoder prior to the subtraction of the monitored body's electrical resistance in substantial accordance with the equation:

$$R_{TA} = \frac{3}{0.00016611111 - 0.00002555556(TA)}$$ where

TA is the scale position of the manually positionable means, and

R_{TA} is the value of the output signal.

10. The device of Claim 7 including

means for repeatedly sampling the resistance value of the living body;

means for subtracting each sampled value from the adjusted base value to obtain the measurement signal; and

sensitivity adjustment means for coupling the measurement signal to the indicator means,

the sensitivity adjustment means including means for multiplying the measurement signal by a gain factor which depends on the position of the manually-adjustable means.